REMARKS

This is a full and timely response to the outstanding final Office Action mailed November 18, 2002 (Paper No. 8). Claims 1-33 are pending in the present application. More specifically, claims 1, 2, 7, 8, 10, 17, 18, 25, 26 and 33 are directly amended. The foregoing amendments contain no new matter. Applicants respectfully traverse all of the rejections of the Office Action. Reconsideration and allowance of the application and presently pending claims 1-33 are respectfully requested.

Examiner Interview

Applicants wish to express their sincere appreciation for the time that the Examiner spent with Applicants' representative during a telephone discussion on December 19, 2002, regarding the outstanding final Office Action. Applicants believe that certain clarification of the prior art, final Office Action and Applicants' First Response were accomplished during the telephone discussion. Further, the phrase "local level shifter is configured to maintain information in the integrated circuit while the integrated circuit is operating in a shutdown mode" was discussed during the interview.

Present Status of the Application

Claims 1-33 stand rejected under 35 U.S.C. § 103(a).

I. Response to §103 Rejections

In the Office Action, claims 1-33 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 5,297,203, to Rose, *et al.* (hereafter, *Rose*) in view of U.S. Patent No. 5,705,940, to Newman, *et al.* (hereafter, *Newman*).

In order for a claim to be properly rejected under 35 U.S.C. §103, the combined teachings of the prior art references must suggest all features of the claimed invention to one of ordinary skill in the art. See, *e.g.*, *In Re Dow Chemical*, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988), and *In re Keller*, 208 U.S.P.Q.2d 871, 881 (C.C.P.A. 1981).

A. Discussion of the *Rose* Reference

Rose appears to disclose a microprocessor based digital cordless telephone capable of transmitting both digitized voice data and digitized command data between a hand unit and a base unit (col. 1, lines 8-15). *Rose* further appears to disclose that the digital cordless telephone implements a shutdown mode, whereby the hand unit is idle and is waiting for a valid keypad input or a valid command from the base unit. The digital cordless telephone implements a periodic power shut down of the receiver section during shutdown mode to extend the battery life while maintaining the capability to receive data inputs (col. 11, lines 15-25). During shutdown mode, the microprocessor awaits input from the base unit or the keypad input. If the microprocessor receives no input, "the microprocessor . . . turn[s] off the receiver and transmittal power and then holds its own operation" (col. 11, lines 27-30). A watchdog timer is set for one second (the time interval during standby mode) unless the microprocessor commands otherwise. After one second, the watchdog timer resets the microprocessor, which in turn powers on the receiver to read data from the base unit as well as the keypad. If no input is detected the power saving sequence is executed again.

B. Discussion of the *Newman* Reference

Newman appears to disclose a digital logic gate combined with analog monolithic microwave integrated circuits. The digital logic gate includes a logic branch including a first pair of metal electrode semiconductor field effect transistors. Each one of the transistors has a gate electrode, a source electrode, and a drain electrode. The logic gate further includes means disposed in the logic branch for reducing the nominal branch currents flowing between the drain electrode of a first transistor and a source electrode of a second transistor. The logic gate further includes a buffer branch including means disposed in the buffer branch for reducing nominal branch currents flowing between the drain electrode of the first transistor and the source electrode of the second transistor. The logic branch further includes an output branch including means disposed in the output branch for reducing nominal output branch currents flowing between source and drain electrodes of the output branch transistors. With such an arrangement, a low-

power buffered logic family suitable for integration with and control of analog monolithic microwave integrated circuits is provided. By incorporating the current reducing means in each branch of the logic gate, the logic gate will dissipate substantially less power than a standard buffered FET logic family (col. 3, line 17 - col. 4, line 3).

Newman appears to disclose a level shifter, wherein the level shifter could be implemented to feed a signal to a switchable power amplifier, as shown by Fig. 5, where the level shifter feeds the signal V_{DDT} to supply voltage V_{DD} to an amplifier 50 (col. 8, lines 49-67).

C. Claim 1

Amended claim 1 recites:

> 1. (Twice Amended) A wireless communication device, comprising:
>
> a serial interface configured to accept input data at a first voltage, the input data including a control signal for an integrated circuit component;
>
> a local level shifter configured to accept a portion of the control signal at the first voltage, the local level shifter configured to maintain a shifted control signal, where the shifted control signal is at the operating voltage of the integrated circuit component, and where the shifted control signal controls the operation of the integrated circuit component; and
>
> a data latch configured to accept the portion of the control signal at the first voltage level from the serial interface, the data latch configured to output the portion of the control signal at the first voltage to at least the local level shifter, **where the local level shifter is configured to maintain the shifted control signal in an integrated circuit while the integrated circuit is operating in a shutdown mode.**

(Emphasis Added)

Applicants respectfully submit that the proposed combination of *Rose* and *Newman* fails to disclose, teach or suggest at least the above-emphasized element. Particularly, the combination of *Rose* and *Newman* fails to disclose, teach or suggest a local level shifter that is configured to maintain a shifted control signal in an integrated circuit while the integrated circuit is operating in a shutdown mode.

In rejecting claim 1, the Office Action recites:

> Consider claims 1, 3-7, 9-15, Rose teaches a wireless communication device comprising: an interface between the baseband control logic IC and the RF operation portions (Rose see especially fig 10), the wireless device having a shutdown mode (Rose col. 25, lines 4-20). Note that when a wireless telephone is awaiting a call, it is in a standby mode. Rose lacks a teaching of the interface including data latches and level shifters to convert the voltage between the control section and the operation portions. Newman teaches an IC interface including data latches and level shifters to convert voltage between control and operation sections (Newman see especially col. 4, lines 4-32, col. 8, lines 49-68, col. 11, lines 16-35). Newman teaches that this arrangement allows lower power dissipation and for the circuitry to be fabricated on a common substrate (Newman col. 3, line 55 - col 4, line 3). It would have been obvious to one of ordinary skill in the art to modify Rose to use the interface arrangement of Newman in order to provide lower dissipation and for the circuitry to be fabricated on a common substrate.

As noted above, the Office Action does not address a local level shifter configured to maintain a shifted control signal in an integrated circuit while the integrated circuit is operating in a shutdown mode. In fact, Applicants respectfully submit that neither *Rose* nor *Newman* disclose, teach or suggest a level shifter configured to maintain a shifted control signal in an integrated circuit while the integrated circuit is operating in a shutdown mode.

Consequently, Applicants respectfully assert that the proposed combination of *Rose* in view of *Newman* fails to render claim 1 obvious, and request that the rejection be withdrawn.

D. Claims 2-9

Applicants respectfully submit that claims 2-9 depend directly on independent claim 1. Since independent claim 1 is allowable, dependent claims 2-9 are allowable as a matter of law for at least this reason. *In re Fine*, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988).

E. Claims 10, 18, 26

Independent claim 10 has been amended to include "means for maintaining the shifted control signals in the integrated circuit while the integrated circuit is operating in the shutdown mode." As mentioned above with respect to claim 1, Applicants respectfully submit that the proposed combination of *Rose* and *Newman* fails to disclose, teach or suggest at least the above-quoted element. Consequently, Applicants respectfully submit that the proposed combination of *Rose* in view of *Newman* fails to render claim 10 obvious, and request that the rejection be withdrawn.

Independent claim 18 has been amended to include "maintaining the shifted control signals in the integrated circuit while the integrated circuit is operating in the shutdown mode." As mentioned above with respect to claim 1, Applicants respectfully submit that the proposed combination of *Rose* in view of *Newman* fails to render claim 18 obvious, and request that the rejection be withdrawn.

Independent claim 26 has been amended to include "logic for maintaining the shifted control signals in the integrated circuit while the integrated circuit is operating in the shutdown mode." As mentioned above with respect to claim 1, Applicants respectfully submit that the proposed combination of *Rose* in view of *Newman* fails to render claim 26 obvious, and request that the rejection be withdrawn.

F. Claims 11-17, 19-25, and 27-33

Applicants respectfully submit that dependent claims 11-17, 19-25, and 27-33 contain all features of their independent claims 10, 18, and 26, respectively. Since independent claims 10, 18, and 26 are allowable, dependent claims 11-17, 19-25, and 27-33 are allowable as a matter of law for at least this reason. *In re Fine*, supra.

Conclusion

In light of the foregoing amendments and for at least the reasons set forth above, Applicants respectfully submit that all rejections have been traversed, rendered moot, and/or accommodated, and that the presently pending claims 1-33 are in condition for allowance. Favorable reconsideration and allowance of the present application and all presently pending claims are hereby courteously requested. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (770) 933-9500.

Respectfully submitted,

Michael J. Tempel, Reg. No.: 41,344

THOMAS, KAYDEN,
HORSTEMEYER & RISLEY, L.L.P.
Suite 1750
100 Galleria Parkway N.W.
Atlanta, Georgia 30339
(770) 933-9500

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ANNOTATED VERSION OF MODIFIED CLAIMS TO SHOW CHANGES MADE

The following is a marked-up version of the amended claims. Amend the following claims by adding the language that is underlines ("____") and by deleting the language that is enclosed within brackets ("[ ]"):

1. (Twice Amended) A wireless communication device, comprising:

a serial interface configured to accept input data at a first voltage, the input data including a control signal for an integrated circuit component;

a local level shifter configured to accept a portion of the control signal at the first voltage, the local level shifter configured to maintain a shifted control signal, where the shifted control signal is at the operating voltage of the integrated circuit component, and where the shifted control signal controls the operation of the integrated circuit component; and

a data latch configured to accept the portion of the control signal at the first voltage level from the serial interface, the data latch configured to output the portion of the control signal at the first voltage to at least the local level shifter, where the local level shifter is configured to maintain the shifted control signal [while at least a portion of the wireless communication device] in an integrated circuit while the integrated circuit is operating in a [standby] shutdown mode.

2. (Twice Amended) The wireless communication device of claim 1, further comprising:

a second local level shifter, the second local level shifter configured to accept a second portion of the control signal at the first voltage, the second local level shifter being configured to maintain a second shifted control signal, where the second shifted control signal is at the operating voltage of a second integrated circuit component, where the second shifted control signal controls the operation of the second integrated circuit component;

a second data latch, the second data latch configured to accept the second portion of the control signal at the first voltage level from the serial interface, the second data latch configured to output the second portion of the control signal at the first voltage level

to the second local level shifter, where the second local level shifter is configured to maintain the second shifted control signal [while the at least a portion of the wire communication device] in the integrated circuit while the integrated circuit is operating in the [standby] shutdown mode.

7. (Twice Amended) The wireless communication device of claim 1, where the integrated circuit [at least a portion of the wireless communication device] is a radio frequency integrated circuit.

8. (Once Amended) The wireless communication device of claim 1, where the integrated circuit component is one of a synthesizer, demodulator, downconverter and modulator/upconverter.

10. (Twice Amended) A system for maintaining programming information in an integrated circuit during a [standby] shutdown mode, comprising:

means for accepting input data at a first voltage, the input data including control signals for a plurality of integrated circuit components;

means for distributing the control signals to the plurality of integrated circuit components;

means for converting the control signals at the first voltage to shifted control signals at the operating voltage of the integrated circuit components; and

means for maintaining the shifted control signals [at the integrated circuit components during the standby] in the integrated circuit while the integrated circuit is operating in the shutdown mode.

17. (Once Amended) The system of claim 10, where one of the integrated circuit [component] components is one of a synthesizer, demodulator, downconverter and modulator/upconverter.

18. (Twice Amended) A method for maintaining programming information in an integrated circuit during a [standby] shutdown mode, comprising the steps of:

accepting integrated circuit input data at a first voltage, the input data including control signals for a plurality of integrated circuit components;

distributing the control signals to the plurality of integrated circuit components;

converting the control signals at the first voltage to shifted control signals at the operating voltage of the integrated circuit components; and

maintaining the shifted control signals [at the integrated circuit components during the standby] in the integrated circuit while the integrated circuit is operating in the shutdown mode.

25. (Once Amended) The method of claim 18, where one of the integrated circuit [component] components is one of a synthesizer, demodulator, downconverter and modulator/upconverter.

26. (Twice Amended) A computer readable medium having a program for maintaining programming information in an integrated circuit during a [standby] shutdown mode, comprising:

logic for accepting input data at a first voltage, the input data including control signals for a plurality of integrated circuit components;

logic for distributing the control signals to the plurality of integrated circuit components;

logic for converting the control signals at the first voltage to shifted control signals at the operating voltage of the integrated circuit components; and

logic for maintaining the shifted control signals [at the integrated circuit components during the standby] in the integrated circuit while the integrated circuit is operating in the shutdown mode.

33. (Once Amended) The program of claim 26, where one of the integrated circuit [component] components is one of a synthesizer, demodulator, downconverter and modulator/upconverter.

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Anne Antonoff

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Attached are the following documents for filing with the USPTO:

Amendment Transmittal Form (1 Page);
Amendment and Response to Second Office Action; and
Return Postcard